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Dear Sir:

Coincident with the swearing in last week in Washington of Val Peterson, as Federal Civil Defense Administrator, criticism is being leveled at the FCDA as having a civil defense organization which is largely worthless and meaningless. The critisism, which is made by Washington observers and experts who observed effective civil defense in England during World War II, is that the present program does not incorporate any preventive measures which could save thousands of lives in an atomic attack. These preventive measures are decentralization and partial evacuation of cities. Instead, the FCDA concerns itself wholly with what to do after atomic attack--although allowing concentration of population to continue unabated. (While the problem is privately recognized by progressive industrial organizations which are moving out of such crowded, vulnerable areas as New York City, the FCDA pays no attention to further multiple building which is increasing the risk in New York City. At present the FCDA has some 900 employes in Washington and in nine regional offices.)

The commercial development of atomic power is now under consideration by Canada, Trade and Commerce Minister C. D. Howe recently told that country's House of Commons. He said that it is desired to have the Crown-owned Atomic Energy of Canada, Ltd., assist private concerns with specialized knowledge, and thereby enable the organizations themselves to undertake development work. Mr. Howe also told the House that Canada was third in the ranks of free world producers of uranium. When Eldorado Mining & Refining brings in its new Beaverlodge property, he stated, Canada should overtake the United States for second place. The mines of the Belgian Congo are first, he said. (Other RAW MATERIAL news, page 4 this LETTER.)

A projectile armed with an atomic warhead will be fired from the Army's new 280-mm. cannon during the series of tests of nuclear explosives that will start this month at the testing ground, near Las Vegas, Nev. In addition to use of the new cannon, present plans call for about ten detonations between March 17th and the end of May. Indoor bomb shelters are to be tested during the detonations, the Federal Civil Defense Administration has said, by having the shelters in frame "test" houses in the path of certain of the nuclear explosions. One of these houses will be about one-half mile from the center of the atomic blast. The other will be three times as far away.

New studies by the government's Atomic Bomb Casualty Commission, recently disclosed in Washington, seem to indicate that the incidence of partial or complete blindness from atomic bomb radiation is less than first studies showed. In an investigation by the ABCC of 154 persons who suffered "radiation cataracts" of the eye from atomic explosions at Hiroshima, 129 had been found to have normal vision, and most of the other twenty-five "serviceable vision". Only a few had eye defects that could not be corrected with eyeglasses, and only two patients had to undergo surgery because of loss of vision due to radiation effects upon the eye.

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BUSINESS NEWS...in the nuclear energy field...

NEW PLANT FOR NUCLEAR EQUIPMENT: Plans have now been disclosed by Westinghouse Electric Corp. to build a new plant which will make special equipment needed for nuclear power facilities. To be located in Harmar Township, near Pittsburgh, Westinghouse has said that the new plant will engineer, manufacture, and sell products which have been developed for atomic power plants.

POSSIBILITIES OF NUCLEAR ENERGY FOR POWER PURPOSES: While eventually an atomic energy power plant will be built and operated at a reasonably competitive cost, it is going to take a long time, Harry A. Winne, General Electric Company vice-president of engineering told an audience in Dallas, Texas, last fortnight. Mr. Winne stated that while he felt the atom offers possibilities as a source of power in the long-term future, he does not believe that the time will ever come when atomic energy will replace oil or gas as a fuel. Rather, he said, he believes atomic energy will only supplement more conventional fuels. Winne pointed out that a very small experimental plant had been operated for atomic power, and that two atomic-electric power plants for submarine propulsion are now under construction. However, he explained, there are many problems to be solved; the primary obstacle at present the lack of knowing how to build and operate an atomic power plant at a reasonably competitive cost. The first practical application of atomic electric power in the United States will probably be a submarine power plant, Mr. Winne stated. He noted that the Air Force is very actively interested in the application of atomic power to aircraft, with General Electric and Pratt & Whitney now working on this application. In areas where transportation costs on ordinary fuels are very high, an atomic electric power plant may be feasible, he stated. Mr. Winne said he does not feel that rigid control and secrecy will continue many more years. There must be a limit to the useful size of a bomb stockpile, he stated. In time, he observed, our potential enemies will probably know as much about atomic energy as we do--possibly even more--and so the need for extreme secrecy may disappear.

FRENCH ATOMIC ENERGY COMMISSION UTILIZES INDUSTRY SERVICES: A Committee on Industrial Equipment has been set up and is now functioning in France to assist the French Atomic Energy Commission in obtaining various items of equipment. The chairman of this Committee is M. Louis Armand, director-general of the Societe National des Chemins de Fer Francais. Members are Pierre Ailleret, director of research to Electricite de France; M. Leon Denivelle, chairman and managing director of Potasse et Produits Chimiques; M. Rene Norguet, director-general of the Ateliers et Chantiers de la Loire; and M. Rene Perrin, managing director of the Societe d'Electrochimie, d'Electrometallurgie et des Acieries Electriques d'Ugine.

NEW BOOKS & OTHER PUBLICATIONS...on nuclear energy subjects...

Assuring Public Safety in Continental Weapons Tests. Covering major activities in the U. S. atomic energy program from July-December 1952, this report of the USAEC to Congress is an account of its stewardship for that period. 210 pages.--Superintendent of Documents, Wash. 25, D. C. (50¢)

Geology of the Uravan Mineral Belt, by R. P. Fischer and L. S. Hilpert. Geologic Guides to Prospecting For Carnotite Deposits on Colorado Plateau, by Doris Blackman Weir. These two publications, by the Geological Survey, on the geology of uranium, represent work accomplished on behalf of the USAEC by the GS. They show the wisdom of applying scientific methods in the search for uranium ores instead of using hit-or-miss prospecting.--Superintendent of Documents, Wash. 25, D. C. (35¢ & 15¢ respectively)

Bibliography on Industrial Radiology, by Herbert R. Isenburger. 1950-52. A useful reference on the subject.--St. John X-Ray Laboratory, Califon, N.J. ($2.00) (Note: Reprints are available at no charge from the Laboratory on: Stress Analysis by X-Ray Diffraction, 1947; Exposure Charts for Cobalt-60 Radiography, 1950; and Atomic Camera, 1950.)

The Atom Story, by J. G. Feinberg. A popular, historical account of the development of atomic energy. 243 pages.--Philosophical Library, New York 16, N.Y.

NEW PRODUCTS, PROCESSES & INSTRUMENTS...for nuclear work...

FROM THE MANUFACTURERS: New charger-reader, model L-62, is designed to accept four ranges of pocket chambers. A selector switch permits the desired range to be obtained, and the circuit is so arranged that the reading on a chamber is not lost even if the selector switch is accidentally set to the wrong range. The ranges are normally set to read this manufacturer's own 200 mr, 2r, 5r, and 50r "midget" type pocket chambers, but they can be adjusted for other models. The 4-inch long scale of the indicating meter is marked 0 to 50 and 0 to 200; it is said to be linear to plus-or-minus 2%.....Designed as a convenience and time-saver when large numbers of pocket chambers are to be read is this manufacturer's dust cap remover. With it, only one hand is required to remove the dust cap, charge or read the meter, and replace the dust cap. The dust cap seals into the barrel by means of a friction fit plastic sleeve. It is removed by pulling the barrel away after engaging the groove in the head of the dust cap with a suitable notch in a vertical plate.....Landsverk Electrometer Co., Glendale 4, Calif.

Deuteroparaffin, a target material for use in cyclotrons, Van de Graaff generators, and other nuclear particle accelerators, is now being made commercially available by this manufacturer. This new material, when bombarded with accelerated deuterons, becomes a relatively inexpensive neutron source. Available as a pure white powder, the material melts at about 110 to 120 deg. C., and solidifies to a hard sheet. The manufacturer feels that the deuteroparaffin may facilitate certain investigations in nuclear physics, including the production of neturons and special short-lived isotopes.....Tracerlab, Inc., Boston 10, Mass.

Model 5120 time interval meter provides a direct reading of elapsed time between any two events, in 1-microsecond increments, to a maximum of 1-second with an accuracy said to be plus-or-minus 1 microsecond, plus-or-minus the crystal drift. The unit may be started or stopped by either negative or positive pulses by means of polarity selecting toggle switches. In operation, the first event or voltage opens the electronic gate, and passes the 1-megacycle time base signal to the first of the cascaded decimal counting units. The second event closes this electronic gate and the time interval between the two events is then displayed in direct decimal form in increments of one microsecond. No interpolation is necessary as the total number is read directly, each digit of that number being indicated by the illumination of a single figure on each decimal counting unit.....Berkeley Scientific Div., Richmond, Calif.

NOTES: Now being built under the auspices of the National Research Council of Brazil, is a 170-inch synchrocyclotron, which is being erected in Rio de Janeiro's Marine Arsenal It is estimated that it will take 3-years to build this cyclotron, which will have a proton accelerating capacity of 450 million electron-volts. Meanwhile, Brazil will train physicists in nuclear research techniques by means of a 21-inch cyclotron which Argonne National Laboratory, Chicago, is shipping there.

PEOPLE...in the nuclear energy program...

Wilbur E. Kelley, who resigned March 1st as manager of the USAEC's New York Operations Office, has now been appointed vice president in charge of engineering of Catalytic Construction Co., Philadelphia. T. Ellwood Webster, president of Catalytic, said that Mr. Kelley will direct all engineering phases of the company's activities in the oil refining, chemical, and petro-chemical fields. (Mr. Kelley was project chief and later operations chief of the $350 million electro-magnetic separations plant at Oak Ridge, Tenn., which produced the first uranium-235 for use in nuclear weapons.)

Henry B. Fry has assumed the position as manager of the New York Office of the USAEC, succeeding W.E.Kelley, above, who has resigned. In this new position, Mr. Fry will supervise the processing of uranium and other ores; the procurement of special materials and devices; the administration of more than 300 prime contracts for research, development, and procurement; and the operation of the USAEC's New Brunswick (N.J.) analytical laboratory.

Edwin Roy Rathbun, Jr., has now been appointed director of physical research of Radiation Counter Laboratories, Skokie, Ill. Mr. Rathbun was formerly with Nuclear Instrument and Chemical Corp., and the USAEC's laboratory at Ames, Iowa.

RAW MATERIALS...radioactive minerals for nuclear work...

UNITED STATES: Over $1.4 million have been paid to uranium miners in the United States by the USAEC in the form of a bonus for initial production of uranium, since the bonus program was put into effect March 1, 1951, recently released figures show. Bonus payments are being made at the rate of more than $200,000 per month, currently. Under the bonus program, payments are made to producers on that part of the first 10,000-lbs. of uranium oxide in acceptable ore delivered to qualified mills or ore buying stations between March 1, 1951, and February 28, 1954. The payments, however, apply only to uranium ore produced from new mines or from mines which had not delivered 10,000-lbs. of uranium oxide prior to March 1, 1951. During 1951, this bonus program accelerated production principally in Colorado and Utah. By 1952, the area of production was extended to include the states of Arizona, New Mexico, South Dakota, Montana, and Wyoming. Since this program began, some 204 properties have received bonus payments. A number of properties have produced enough uranium in 24-months to receive the entire bonus benefits applicable to such properties.

The USAEC was charged last week with gearing vanadium and uranium processing to the development of large vanadium and uranium processing companies by S. R. McNichols, Colorado state senator speaking at the Denver Mining Assoc. meeting. Mr. McNichols, who also charged the USAEC with "fostering a monopoly inimical to the public interest" termed the uranium industry a "controlled industry". The action of the USAEC, he said, prevents the entry of new, free, competitive enterprises in the field of atomic energy.

CANADA: Following the discovery at Lake Nipissing of what appear to be important deposits of uranium, columbium, and tantalum, a staking rush has developed at the city of North Bay there. It is estimated that some 1,000 claims have been staked, with practically all available ground around the 50-mile stretch of lake having been taken up. (This initial discovery, responsible for the interest now shown, was made by Inspiration Mining and Development. To date, the average of all assays from drilling being conducted by Inspiration, as shown by chemical analysis, works out to just over 1.0% columbium-tantalum oxide, and 0.10% uranium oxide, according to company officials.).....Gunnar Gold Mines, which in the last fortnight has shown such good grade material that it led all uranium issues on the Toronto exchange in activity, continued to show consistently good assays as more drill hole results were released.....Claims at Athona Mines, Ltd., at Raggs Lake, Beaverlodge, Saskatchewan, which adjoins immediately east of the main Eldorado Mining & Refining group, are now to be explored by Radiore Uranium Mines, Ltd.....At the uranium prospect of Beta Gamma Mines, Ltd., which is directly north of the Rix-Athabaska and Goldfields Uranium mines in the Beaverlodge Lake area of Saskatchewan, it is proposed by the company to sink a three compartment shaft as quickly as time and materials permit. The proposed chaft will provide access for the development of the two known uranium-bearing ore zones on this group.....A group of some 17-claims have been acquired by Lafayette Asbestos Co., comprising about 1,000 acres in the Beaverlodge Lake-Goldfields area of Saskatchewan. The claim group is located about 4-miles south of the main Eldorado uranium property on which a mill is presently being erected. According to a company official, two uranium showings already have been reported on the property by prospectors. Arrangements are now being made for extensive prospecting on the property, including Geiger counter and scintillometer surveys.....A 50% interest in 24 uranium prospect claims in the Milliken Lake section of the Lake Athabaska area, northern Saskatchewan, has been acquired by Consolidated Rochette Mines, Ltd. The claims are in the northeast arm of Milliken Lake, next to a Nesbitt-LaBine holding.

UNION OF SOUTH AFRICA: It is planned to build some 12 or 14 more uranium treatment plants in South Africa, according to Minister of Mines J. H. Viljoen. He said last week at Johannesburg that United States and British interests will invest $85 million in them, and an additional $20 to $30 million will be invested in providing the large electrical supply needed, making a total of more than $100 million. Mr. Viljoen also stated that last year America and Britain had asked the Union to double or treble the original contract for production of uranium. (South African uranium is obtained by treating the gold slimes after gold refining processes.)

ATOMIC PATENT DIGEST...latest U. S. grants in the nuclear field...

Rotary compress pump. Essentially, a pump for supplying a liquid in accurately measured amounts. Comprises, in part, an elastic walled tube, means for supporting this tube, a rotatable helical member, and means to selectively vary the length of this helical member to alter its pitch, while supporting means for the tube provide a backing for it so that the helix progressively constricts the tube as the helix is rotated on its axis. U. S. Pat. No. 2,629,333 issued Feb. 24, 1953; assigned to United States of America (USAEC).

Filter for removing particulate matter from a gas stream saturated with vapor. Comprises, in part, a pad of glass fibers, these fibers being about 0.0004-inch in diameter, and packed in essentially random orientation to a bulk density of between about 0.1 and about 0.6 pound per cubic foot. U. S. Pat. No. 2,629,459 issued Feb. 24, 1953, assigned to United States of America (USAEC).

Radiation measuring device: a coincidence pulse indicating circuit. Comprises, in part, a pair of pulse input circuits, and a pair of balanced integrating circuits, one for each input circuit. Each integrating circuit comprises a normally conducting output tetrode tube having an anode, cathode, control grid, and screen grid, with each tetrode having its control grid connected to its respective integrating circuit to vary the conductivity of the tetrode upon receipt of a pulse. There is a common output circuit for these tetrodes, and an indicating device connected in this common output circuit to respond to the sum of the outputs of the tetrodes. A source of positive potential is connected through a common potential-dropping resistance to both the screen grids in common, whereby receipt of an impulse by one integrating circuit will vary the conductivity of its respective tetrode and affect a variation in the potential of the screen grid of the other tetrode to vary its conductivity in the opposite sense to that of the first tetrode. U. S. Pat. No. 2,629,824 issued Feb. 24, 1953; assigned to United States of America (USAEC).

Radiation softening. Comprises, in part, (in a device of the thickness gauge type in which the thickness of a material is measured by its absorption of radiations from a radioactive source) a shield arranged to be interposed between this source and this material to prevent direct radiations from it from reaching the material, and a reflector facing the source and material and returning by reflection and back-scattering a portion of these radiations past the shield to strike the material. The characteristics of the reflector are so chosen that the returned radiation will have a predetermined average energy level lower than that of direct radiations from the source. This level is determined by the absorption characteristics of material, the thickness of which is to be measured. A detector is arranged on the side of the material away from the source, and shielded from it so that it detects and measures the intensity of returned radiations not absorbed by the material. U. S. Pat. No. 2,629,831 issued Feb. 24, 1953; assigned to Tracerlab, Inc., Boston, Mass.

Radioactive resistor. Comprises, in part, the combination of a sealed envelope which contains an ionizable gas, a pair of insulated electrodes within this envelope, radioactive means for effecting substantially constant continuous ionization of the gas contained within this envelope, and a covering of electrically conducting material. A portion of the surface of one of these electrodes which confronts the other electrodes, being of a different material from the electrodes, yields a self-induced voltage of opposite polarity to that induced in the contacted electrode, thereby effectively canceling at least a portion of the self-induced voltages from the resistance unit. U. S. Pat. No. 2,629,837 issued Feb. 24, 1953; assigned to United States of America (USAEC).

Sincerely,

The Staff
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